

CLAIMS

What is claimed is:

1. A tool for grooving an outer surface of a valve guide, comprising:

a tool body,

a tightening nut disposed about a portion of the tool body,

at least one roller rotatably mounted to the tool body, and

5 means for rotating the at least one roller about the outer surface of the valve guide,

wherein the tool is capable of providing grooves on the outer surface of the valve guide.

2. The tool of Claim 1, wherein the tool body includes a longitudinally extending relief hole for allowing the tool to be disposed about the valve guide while a cylinder head is mounted to an engine.

3. The tool of Claim 1, wherein the tool includes four rollers circumferentially disposed about ninety degrees with respect to each other.

4. The tool of Claim 3, further comprising a bushing disposed within each roller to allow each roller to rotate as each roller frictionally engages the outer surface of the valve guide.

5. The tool of Claim 1, wherein the tool body includes a tapered portion to allow the tool to be inserted into a valve spring pocket.

6. The tool of Claim 1, wherein the at least one roller includes one or more raised threads on its outer surface to form a corresponding number of cutting edges.

7. The tool of Claim 1, wherein the at least one roller is made of heat-treated steel material having a hardness of between about 48 to 52 Rockwell C.

8. The tool of Claim 1, wherein said rotating means comprises a handle.

9. A method for forming grooves on an outer surface of a valve guide using a grooving tool, the method comprising the steps of:

positioning the grooving tool about a valve guide,

tightening a tightening nut disposed about a portion of a tool body of

5 the grooving tool such that at least one roller of the grooving tool engage an outer surface of the valve guide,

rotating the grooving tool,

loosening the tightening nut such that the at least one roller no longer engages the outer surface of the valve guide, and

10 removing the grooving tool from about the valve guide.

10. The method of Claim 9, wherein the grooving tool is inserted into a valve guide pocket while a cylinder head is mounted on an engine.